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The construction of macro-events:

A Typological Perspective*

Johan Pedersen

In this paper Talmy's influential typology of macro-events (Talmy 1985, 1987, 1991, 2000) is discussed from the point of view of construction grammar (Goldberg 1995, 2006). Talmy has described typological differences of lexicalization between what he calls satellite framed languages and verb framed languages. The discussion originates in a contrastive analysis of a short story by H. C. Andersen available in six parallel versions: the original Danish version, an English, a German, a Spanish, an Italian and a French version. The paper argues that the generalized version of the typology (Talmy 1991, 2000) suffers from being formulated exclusively in terms of lexicalization patterns, and that the typology should include both the lexical level and a schematic constructional level of analysis. A framework is proposed in which the typological patterns are interpreted as an information structure phenomenon. Constructions of the main information (MIC) and the supportive information (SIC), of varying degree of specificity, are the basic constituents of the typology. From this point of view, Germanic languages tend to map the main information (MI) onto a complex schematic construction and the supportive information (SI) onto a lexical (verbal) construction.

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Romance languages tend to map the MI onto the verb, while the SI may be mapped onto a complex schematic construction. The paper hypothesizes that MIC and SIC stem from generalizations from usage, that they have their own, procedural role in grammar, as a device for organizing the information, and that the typology is anchored in this task. The interpretation of Talmy's descriptive typology is in this perspective that some pairs of MIC/SIC are more entrenched in the grammar of some languages than in others. The proposed framework is well suited for analyzing usage data that does not fit the basic patterns. It is also adequate for identifying patterns in data that are similar to those recognized in Talmy's work, yet not recognized as part of his typology.

1. Introduction

The aim of this paper is to discuss the distinction in cognitive semantics between **verb-framed and satellite-framed languages** (Talmy 1985, 1987, 1991, 2000) in the theoretical context of a construction grammar approach to argument structure (e.g. Goldberg 1995, 2006; Croft 2001), as opposed to a lexical approach (e.g. Grimshaw 1990, Levin and Rappaport Hovav 1995, Pinker 1989). In several publications, Talmy has thoroughly described characteristic typological differences of lexicalization, e.g. differences between Germanic and Romance languages. The classic example is the expression of motion. In Danish and English, which are said to be satellite-framed

languages, the path of movement is mapped onto a satellite[1], while the manner of movement is mapped onto the verb. In Spanish, a verb-framed language, the path is mapped onto the verb, and the manner may be expressed by an adverbial expression. In Talmy's work, this typology is formulated in terms of lexicalization patterns. In Talmy (1991, 2000), the typology is modified. It now has a broader scope and no longer concerns only the motion event.

The attempt to generalize the typology makes it clear that a generalizing framework requires a slightly different conception of grammar, particularly with respect to the principles of Talmy's componential lexical approach. More specifically, I will claim that the typology would profit from being fitted into a construction grammar framework (e.g. Goldberg 1995, 2006; Croft 2001).[2] I will argue that even though the typology of motion events, originally presented in Talmy 1985, very convincingly shows important patterns of lexicalization, the idea of extending its applicability to other semantic domains requires a framework that goes beyond having the lexeme as the basic unit of the typology. The essential question that this study raises is the following: do we have a general typology of lexicalization, as claimed by Talmy, or should we instead develop a general typology of constructions, in which patterns of lexicalization are special cases? I will argue that the latter is the most rational and fruitful strategy. The argument follows, thus, a more general trend in typological research away from typologizing languages as a whole, to typologizing particular situation types expressed in a language (see e.g. Croft et al 2008). As

[1] Talmy defines a satellite as a grammatical constituent, other than a nominal argument, that has a sister relation to the verb. This includes a wide variety of grammatical entities, including, e.g., English verb particles and verb prefixes in German (Talmy 2000).

[2] Ruiz de Mendoza Ibáñez and Mairal Usón (in press) offers a similar framework.

pointed out by Croft and his collaborators, the former strategy usually leads to declaring that all languages are a “mixed” type (Croft et al 2008: 25).

The descriptive typology developed by Talmy is based on data from a broad, though still far from complete, sample of the world’s languages. In recent years, the framework has been applied to an extremely wide range of languages. It should be emphasized that the present study is not itself a typological study. It is rather to be considered as a criticism of certain established assumptions in current typological work on macro-events, a criticism that leads to a new interpretation of Talmy’s findings. The analysis makes use of data from six European languages, which represent two major families: the Romance languages and the Germanic languages. It is my hope that my proposals will turn out to have a broader application, and that this cross-linguistic study, which is more contrastive than typological, may be a contribution to a revised, and improved, typology of macro-events.

First, I will present the topic of this paper: the classic distinction in cognitive semantics between verb-framed and satellite-framed languages (Section 2). Secondly, I will discuss some problems that are related to Talmy’s idea of designing a typology with a broader scope (Section 3). Thereafter (Section 4), I will tentatively suggest a construction grammar based theoretical framework. This framework will be exemplified with data from some major European languages (Section 5). Finally, some methodological principles for an empirical study on a larger scale will be outlined, and some preliminary results from a pilot study will be presented (Sections 6 and 7).

In the first part (Sections 2-5), whenever examples are not provided with references, they are made-up, or translated, examples, checked by native speakers. In the last part (Sections 6-7), data are taken from the parallel corpus Andersen (2005), created specifically for this study.

2. Verb-framed and satellite-framed languages

Expressions of **motion**, as in (1), have been studied extensively and they are often used as the prototypical example of typological differences between e.g. Germanic and Romance languages (e.g. Aske 1989; Berman and Slobin 1994; Gennari et al 2002; Ibarretxe-Antuñano 2004a, 2004b; Slobin 1996, 1997, 2000, 2004; Talmy 1985, 1987, 1991, 2000). Talmy has identified similar typological patterns in other semantic domains, such as **state change** and **temporal contour** (aspect), and he generalizes the typology to be valid for what he defines as **macro-events** (Talmy 1991, 2000). Macro-events are complex semantic structures comprising a main event (ME), the framing event, and a co-event (CE). He claims, thus, that in (1) the motion event is a macro-event, in which the path of motion is the ME, and the manner of motion is the CE:

(1)	*The bottle*	*floated*	*into*	*the cave*		Talmy (1985)
	Flasken	*flød*	*ind i*	*hulen*		(Danish)
		CE	ME			
	La botella	*entr-ó*	*en*	*la cueva*	*flot-ando*	(Spanish)
	the bottle	enter-PST.3SG	in	the cave	float-GER	
		ME			CE	

According to Talmy, some languages, e.g. English and Danish, map the ME onto the satellite and the CE onto the verb. Other languages map the ME onto the verb and the CE outside the verb, for instance, as in Spanish, onto an adverbial expression. The term **event**, as used by Talmy, is indeed highly abstract, and it has to be understood in the context of certain general cognitive processes that in Talmy (2000) are termed

conceptual partitioning and **ascription of entityhood**. According to Talmy, the human mind in perception or conception can extend a boundary around a portion of what would otherwise be a continuum (space, time and other domains) and ascribe to this content the property of being a single unit entity. One category of such an entity is perceived or conceptualized as an event (Talmy 2000: 215). The basic idea is that the macro-event is organized as a gestalt, as a figure-ground relation between the main-event and the co-event, which is also characterized as a support event for the main event (e.g. the meaning of manner, or cause). This theorizing is thus analogical with Talmy's previous analysis of the expression of complex events in compound sentences (Talmy 1978, 2000):

(2) *Since his wife was tired, they went home early*
Ground Figure

In (2), the principal event is that they went home early, and the backgrounded causal event is that his wife was tired.

It is not clear what exactly are the constraints on what may count as a macro-event in Talmy's framework. Building on Talmy's work, Bohnemeyer *et al* introduce the term **macro-event property (MEP)** in a recent, large scale, cross-linguistic study of event segmentation. MEP is a property of clausal expressions that assesses the tightness of packaging of subevents in the expression. An expression has the MEP if it packages event representations such that temporal operators (e.g. tense and time adverbial) necessarily have scope over all subevents (Bohnemeyer 2007).

Talmy's typology includes five types of macro-events in different semantic domains. In (3) the macro-event consists of two subevents: the state change, which is

the principal meaning component, the main event (ME), and the causing event (CE). The overall interpretation of the macro-event is that some activity, or action, directed toward some entity causes a state of change to come about:

(3)	*I*	*blew*	*the candle*	*out*	(Talmy 1991)
	Jeg	*pustede*	*stearinlyset*	*ud*	(Danish)
		CE		ME	
	Apag-ué	*la vela*	*de un soplido*		(Spanish)
	put out-PST.1SG	the candle	by a blow		
	ME	CE			

In Danish and English, the ME, the state change, is expressed by a satellite (*ud*, *out*), whereas the CE (*pustede*, *blew*) is expressed by the verb. In Spanish, the ME and the CE is expressed by the verb (*apagué*) and an adverbial element (*de un soplido*) respectively.

Viewed as a macro-event, a temporal contour, or aspect (Comrie 1976), may be expressed distinctly in different language types as well, according to Talmy (2000). The typological difference looks like the one observed for the construction of motion events, or state change. The ME is the temporal contour (the aspectual structure) and the CE is the backgrounded supporting event (the process in question). A number of Germanic languages typically express the ME in a satellite, whereas the same meaning component in a Romance language like Spanish is constructed by the verb. In (4), English and Danish express the meaning of recency as an adverbial satellite, while Spanish expresses it within the verb:

(4)	*I*	*had*	*just*	*eaten*	(Talmy 2000)
	Jeg	*havde*	*lige*	*spist*	(Danish)
			ME	CE	
	Acab-aba		*de*	*com-er*	(Spanish)
	Finish-PST.IPFV.1SG		to	eat-INF	
	ME			CE	

The implicit qualification of the relation between ME and CE as a figure-ground relation is in this case not very clear. The relative prominence of the ME and the CE seems to depend on the specific construal in usage. Another semantic domain that Talmy mentions is **action correlation**, i.e. co-activity. Co-activity may be expressed as a macro-event, in which the co-activity is the ME and the activity in question is the CE. Germanic languages tend to construe the co-activity (ME) according to the general pattern, i.e. in a satellite, whereas the activity in question (CE) is expressed verbally (Talmy 2000):

(5)	*I*	*walked*	*along with*	*him*	(Adapted from Talmy 2000)	
	Jeg	*gik*	*sammen med*	*ham*		(Danish)
		CE	ME			
	Yo	*le*	*acompañ-é*		*and-ando*	(Spanish)
	I	ACC.3SG	accompany-PST.1SG		walk-GER	
			ME		CE	

An event of realization/completion, e.g. *the police hunted the fugitive down* (Talmy 2000), is the fifth type of macro-event (including the motion event) that Talmy

analyzes as a conflation of two subevents, the framing event and the supporting event. This type is, however, not illustrated with Romance examples. In Section 5.2, I will show that the category **resultative** is highly relevant for a revised, construction-based, typology, and particularly that this is easily exemplified with Spanish (or Romance) examples.

3. Some problems in Talmy's typology

I have already mentioned that Talmy's typology relies on principles of figure/ground-organization. In my view, as I will argue in more detail below, this idea lacks motivation since figure-ground conceptualization in linguistic theorizing does not operate across languages. Another strategy for a further development and elaboration of Talmy's typology, would be (and this is what I will suggest, tentatively, in this paper) to analyze the typological differences in terms of information structure constructions (Lambrecht 1994). The function of information structure constructions is to organize the essential contribution to meaning - the main information - in relation to a supportive element of meaning - a secondary item of information.

Talmy's typology is a theory about lexicalization patterns. In this paper I will argue that, from the point of view of the construction grammar framework (Goldberg 1995, 2006), the generalized version of the typology (as described in detail in Talmy 2000) suffers from being formulated exclusively in terms of lexicalization patterns. This is a theoretical matter that has important implications for the interpretation of the huge amount of data that does not fit the typology suggested by Talmy. "Unfitting" data are mostly an expected, and to some extent, acceptable outcome that is not necessarily a threat to a proposed theory. In this case, though, it is evident that

substantial amounts of “unfitting” data weaken the accuracy, and particularly the scope, of a generalizing typology such as the one suggested by Talmy. Therefore, “unfitting data”, as widely documented in the literature (e.g. Aske 1989; Berman and Slobin 1994; Gennari et al 2002; Ibarretxe-Antuñano 2004a, 2004b; Slobin and Hoiting 1994; Slobin 1996, 1997, 2000, 2004, Zlatev and Yangklang 2004) call for a revision of the theory.

3.1 Macro-events – Complex information units

In Talmy’s terminology, an event is understood in a strictly cognitive sense: a cognitive unit of perception or conception. He assumes, as we have seen in the previous section, that the macro-event is organized as a figure-ground relation between the main event (ME) and the co-event (CE), which is a supporting event. I will argue against this latter idea. Gestalt-organization in linguistic structure is due to a fundamental human cognitive ability, which is widely, though not exclusively, reflected in the principles of construal in cognitive linguistics (e.g. Langacker 1987). When it is claimed in cognitive linguistics that some complex linguistic structures in a given language are organized as a figure-ground relation, an important motivation for such an analysis is provided when the structure is characterized by a potential alternation, i.e. when there is a possibility of choosing an alternative linguistic construal that corresponds to a figure-ground alternation. The construction of macro-events in fact involves a potential alternation since the main event and the co-event may be construed differently. Talmy’s typological claim about the clausal construction of macro-events, however, is concerned with the existence of fixed patterns in one language type (i.e. not alternating construal in one language) opposed to distinct fixed patterns in other language types. It is therefore an objection to Talmy’s typology that

even though his macro-events, (the semantic constituents of the typology) are assumed to be organized on the basis of figure-ground organization, the alternative construal of the macro-event, which is the essence of the typology, is still supposed to take place, exclusively, across languages. In other words, it may be objected that figure-ground conceptualization in linguistic theorizing does not operate across different languages. Talmy's use of the figure-ground distinction is supposedly analogical with his previous analysis of complex events in compound sentences (Talmy 1978, 2000), as mentioned above. In this early work, the figure-ground distinction accounts for the relative prominence (importance or essentiality) of the events involved in the compound sentence, and it has undoubtedly motivated the choice of terminology in Talmy's later work on conflated events (macro-events) in simple clauses. This has in fact been pointed out by Talmy himself (e.g. Talmy 2000, vol.II: 215). The main event is defined as the framing event, the basic constituent of the macro-event. In that sense, the main event represents the core information, and the co-event specifies the main event. In terms of prominence, the co-event thus represents a secondary information. Given that this is a correct characterization of the figure-ground distinction in Talmy's typology, the role of the gestalt theory in his framework is reduced to be a distinction between **main information** and **secondary information** in the construction of macro-events.

A different issue is whether the main event and the co-event are always related as figure and ground respectively. If we apply Talmy's rationale in his analysis of aspectual expressions, explicit expressions of aspect should be treated as the main event and expressions of the verbal process as the co-event, as in *he kept* [ME] *eating* [CE]. Firstly, the distribution of ME and CE, and correspondingly of figure and ground, in this example, which represents a very common usage in English, goes

counter to Talmy's typology, which predicts that the aspectual structure (ME) may be explicitly expressed by a satellite, not by the verb as in Spanish. Secondly, in examples like *he kept eating and eating*, which gives prominence to the activity of eating, *eating and eating* would not only represent the figure, but also the ground (CE).[3]

The theoretical point of departure in the present framework that will be developed in the subsequent sections is different. I assume, following basic principles of construction grammar (e.g. Goldberg 2006), that grammatical structure is formed on the basis of generalizations from usage. The implication for the typology is that the generalized asymmetric bipolarity in event conflation is motivated by simple patterns of information structure constructions, abstracted from usage and entrenched in the grammar. Expressions of complex events have a principal schematic meaning that determines the type of event, e.g. 'X moves Y' (motion event) or 'X causes Y to move Z' (caused motion event), and a specifying meaning element (e.g. the specific manner or cause of motion). I hypothesize that users tend to make constant generalizations from usage, across different types of complex event expressions: in general complex events involve a delimited principal information and a supportive, specifying chunk of information. In the present framework, the term macro-event is thus used in a slightly different way as compared to the use in Talmy's work. A macro-event is a complex cognitive event that in the linguistic encoding (conceptualization) process may be subdivided into a main information unit (MI) and a supportive information unit (SI). The MI is the schematic information that defines the semantic domain. The SI specifies the MI. Notice that while figure-ground organization is asymmetric in nature, the present framework, on the contrary, does not exclude the possibility that subevents combine in a symmetric relation maintaining an equal status of prominence as

[3] This example has been suggested to me by an anonymous reviewer.

information units. This is important since it may, in some cases, be difficult clearly to distinguish a specific asymmetric relation, to differentiate the main information from the secondary information, or the main event from the co-event in Talmy's terminology. See e.g. the analysis of aspectual structure as a macro-event (Talmy 2000), cf. the example provided above and example (4) in Section 2.

Typological alternations in expressions of macro-events seem to have direct consequences for information structure.[4] Talmy's findings should therefore be interpreted as an information structural phenomenon rather than a matter of lexicalization. This is the reason why I believe that it is reasonable to substitute the terms main event and co-event in Talmy's framework with **main information** (MI) and **supportive information** (SI) in the present account. We may ask: how is the main information (MI) and the supportive information (SI) expressed? In (3), reproduced here as (6), the basic meaning is a state change ('X causes Y to change'), which is the main information (MI). This information is expressed by the construction as a whole in English and Danish since the meaning of the lexemes *out*/*ud* and *blew*/*pustede* per se are not sufficient input for the listener to decipher this basic information.[5] In Spanish, however, the same information is encoded by the verb, in the sense that the meaning of the verb is a specific state change, including a complementary valence structure ('**X** causes **Y** to be put out'). The SI, the specifying information about what motivated the state change, is expressed by the verb in English and Danish ('I blew the candle'), and possibly by an adverbial construction in Spanish:

[4] On information structure, see Lambrecht 1994: 5f. and chap. 5.

[5] The meaning of *out/ud* is directed motion: *he went out*, and the meaning of *blew/pustede* is a specific activity/action: *he blew the whistle*.

(6) [*I* *blew* *the candle* *out*] MI (Talmy 1991)
SI

[*Jeg* *pustede* *stearinlyset* *ud*] MI (Danish)
SI

Apag-ué *la vela* [*de* *un* *soplido*] SI (Spanish)
put out-PST.1SG the candle by a blow
MI

To summarize, in the present framework the generalized typology does not assume a general cognitive ability of figure/ground organization of the complex event, and it is not directly concerned with specific patterns of conceptualization. It is rather concerned with regularities in the distribution of information. Hence, the constituents of the typology are, as we shall see, different types of information structure constructions.

3.2 "Unfitting" data

Many studies have shown that there is a substantial amount of data that does not fit the typology proposed by Talmy (see e.g. Ibarretxe-Antuñano 2004a, 2004b; Slobin 2004; Slobin and Hoiting 1994; Zlatev and Yangklang 2004). Firstly, as I have already pointed out, the whole idea of typologizing languages has often led to declaring that all languages are a "mixed" type with respect to Talmy's typology (Croft et al 2008). In (6), for instance, the macro-event is state change. The English and Danish versions may show the "Germanic" pattern, see section 1.1. However, the user may also choose a "Romance" type. In Danish, it is equally correct and common to construe the main information (MI = 'X causes Y to change') by the verb: *jeg* ***slukkede*** **(**'I put out'**)**

stearinlyset, as in (6a). In the Spanish version in (6), the MI is expressed by the verb *apagué*, whereas the SI, the causal factor, may be expressed by an adverbial construction. An alternative would be, as in (6a), to express the SI verbally: *soplé* ('I blew') *la vela*, in which only the supportive information is expressed, leaving the MI for inferential interpretation:

(6a)	*Jeg*	*slukke-de*	*stearinlyset*	(Danish)
	I	put out-PST	the candle	
		MI		
	Sopl-é	*la vela*		(Spanish)
	Blow-PST.1SG	the candle		
	SI			

When it comes to aspect, temporal contour construal does not always follow the typological pattern suggested by Talmy, see (4) in Section 1.1. The Germanic type as well as the Romance type, for instance, may explicitly encode aspectual structure (= MI) by means of the verbal lexeme:

(7)	*He*	*continued*	*eating*		
	Han	*fortsatte*	*med at spis-e*		(Danish)
	he	continue-PST	with to eat-INF		
	El	*segu-ía*		*com-iendo*	(Spanish)
	he	continue-PST.IPFV.3SG		eat-GER	
		MI			

Another important issue is that some languages do not seem to fit in Talmy's binary typology (see e.g. Slobin 2004; Slobin and Hoiting 1994; and Zlatev and Yangklang 2004). This is, for instance, the case in serial verb languages like Thai. Slobin suggests the addition of a third type of lexicalization pattern in order to account for such "unfitting" languages. In his typology, he includes, thus, what he calls **equipollently-framed languages**, in which both manner and path are encoded as main verbs.[6]

"Unfitting" data is obviously not *per se* an argument for rejecting a theoretical framework. Nevertheless, massive amounts of negative data have to be taken seriously, and may be an indication that the theory should be revised. The essential question is how to interpret the mismatch. What should its precise impact on the typological theory be? In this paper, I will suggest a strategy that instead of typologizing languages, is centred in typologizing particular constructions expressed in a language.

3.3 The need for a constructional approach

Sometimes the information cannot be localized in one single clausal element. Instead, it is mapped onto a combination of constituents (Sinha and Kuteva 1995). For instance, very often the path is expressed by a satellite in combination with a preposition: *he ran **out of** the room*. Distributedness is not *per se* a problem for the theory, in fact, as pointed out by Talmy himself, it has been an integrated part of the framework from the outset (Talmy 2005). What I want to point out here is that the typology (Talmy 1991, 2000) suffers from being formulated exclusively in terms of lexicalization, understood as information lexicalized in one constituent, or distributed over a combination of constituents. What the lexical approach, regardless of the admittance of complex units, does not capture is that **the schematic construction** seems to play a crucial role in

[6] See also the discussion in Talmy (2005).

clause structure, as an essential part of clausal meaning. That was exactly what Goldberg found in her study of argument structure constructions (Goldberg 1995). In general terms, and according to Goldberg, a schematic construction has features that are not derivable from other form-meaning pairings (such as lexemes) (Goldberg 1995, 2006). The schematic construction type is needed in a generalized typology to be able to account for the basic meaning of the macro-event, i.e. the main event in Talmy's work and the main information (MI) in the present framework. This becomes clear if we consider one of Goldberg's classic examples:

(8) *He sneezed the napkin off the table* (Goldberg 1995)

Goldberg argues that it is not plausible to claim that the lexical meaning of *sneezing*, or that of *off* for that matter, may account for the basic meaning of (8). Therefore, we have to accept the existence and crucial role of schematic constructions in the user's grammar. Schematic constructions are instantiated by, but not derived from, lexical items, and they have their own schematic meaning. The constructional information is thus independent from the information contributed by the verb, which is an intransitive verb meaning in (8), and it cannot be derived from the lexically encoded information. Since English speakers do understand perfectly well the basic transitive meaning of (8), we are forced to accept that a transitive schematic construction, the so called **Caused motion construction**, plays the principal role in the encoding of that basic meaning. The caused motion construction has the form: [SUBJ, V, OBJ, OBL] and the meaning: 'X causes Y to move Z'. The point here is: If a generalized typology has to account for motion events in general, not only intransitive motion events as in (1), but also transitive motion events (caused motion events), the schematic meaning and the

schematic construction should play a crucial role. In his analysis of (9), Talmy states that the main event is the transitive motion event ('I moved the ball into the box'); whereas the supportive co-event is the causal event ('I kicked the ball'):

(9) *I kicked the ball into the box* (Talmy 2000, II: 228)

Correspondingly, the main information communicated in (9) is the caused motion event: 'X causes Y to move Z', or as paraphrased by Talmy: 'I moved the ball into the box', while the secondary information is the specification of the causal factor ('*I kicked the ball*'). However, Talmy's typological model does not work in this case. In accordance with his typological hypothesis, the main event 'I moved the ball into the box', is mapped onto the satellite *into*. The meaning of *into* may be defined as 'entering a container' (Rudzka-Ostyn 2003), and it is not plausible to assume that the transitive causal element: 'I caused the ball to move' should be part of the meaning of *into.*[7] So my point is complementary to the one made by Goldberg in her analysis of the caused motion construction, cf. (8), in which she claims that the (lexical) verbal meaning cannot account for the basic meaning of the construction. I claim that the (lexical) meaning of the satellite *into* in (9) cannot account for the basic meaning of (9) either.

If we analyze expressions of temporal contour (aspect), which is one of the semantic domains that plays a dominant role in Talmy's generalized typology:

[7] This kind of example shows why it is not convincing when Mendívil Giró, in his contrastive analysis (English-Spanish) of the resultative construction, argues that English may be characterized as a satellite structuring language, and Spanish as a verb structuring language (Mendívil Giró 2003).

(10)	*I*	[*had*	*just*	*eaten*] MI		(Talmy 2000)
				SI		
	Jeg	[*havde*	*lige*	*spist*] MI		(Danish)
				SI		
	[*Acab-aba*			*de*	*com-er*] MI	(Spanish)
	finish-PST.IPFV.1SG			to	eat-INF	
					SI	

it becomes clear that the MI, the aspectual structure, in the English/Danish version, is not simply expressed by a lexical item (*just*). The aspectual meaning in (4), reproduced here as (10), that something happened a short time ago, is expressed by a perfective verb phrase construction plus a lexical item (the satellite *just*/*lige*). Likewise, in the Spanish version the aspectual meaning is expressed by the construction: [imperfective verb phrase + *de* + inf.] plus a lexical item (*acabar* 'finish'). In fact, when we in a Danish version choose another verbal form, e.g. the present tense, or the simple past tense: *jeg spiser/spiste lige*, the meaning of the particle *lige* ('just') will no longer be aspectual, it will be modal. We may say that in the three languages the aspectual meaning is encoded constructionally (in a schematic construction) as well as lexically (in a lexical construction). In all three languages, the SI, the activity in question, is lexically expressed by the second verb (*eat*, *spise*, *comer*).

Examples like (9) and (10) point out that a generalized version of the typology, that includes e.g. temporal contour and caused motion, should include the lexical level as well as a schematic constructional level. If schematic, not only lexical, form-meaning pairs should be a central and integrated part of the typology as argued above, and if it is supposed to have a more general scope and not only be concerned with the

motion event (Talmy 2000), the form-meaning units of the typology should have a very general nature and should be applicable in various semantic domains. In fact, the argument sketched above applies for a number of basic clause structures, including the intransitive expression of the motion event:

(11) *The fly buzzed into the room* (Goldberg 1995)

MI = schematic meaning: 'X moves Y'

SI = lexical meaning: 'X buzzed'

If we accept that an essential part of the meaning communicated in complex expressions like (8), (9), (10) and (11), and English expressions of macro-events in general, is schematic in nature, how do we then capture the typological differences in expressions of macro-events? The answer is that we need to reformulate the typology in terms of constructions of different specificity, including both lexical and schematic constructions. Such a typology thus needs to be construction-based.

This point is further indicated by the way the supportive information (SI) typically is expressed in e.g. Romance languages, particularly in Spanish. In Romance languages the supporting information (e.g. manner or cause) is typically expressed by an adverbial construction:

(12)	*Sal-ió*	*a*	*la calle*	***corr-iendo***
	go out-PST.3SG	onto	the street	run-GER
	MI			SI (ADV)

In terms of lexicalization, the expression of the SI in (12) (the lexical category verb) does not represent a typological regularity. Very frequently not only the MI (e.g. 'X moves Y') but also the SI (e.g. manner of motion) are formally expressed by a verb, as exemplified in (12). From a lexical point of view, both the MI and the SI are expressed by a verbal predicate. Consequently, a lexical approach will not capture the typological regularity, ascribable to Romance languages, which concerning the SI is not lexical in nature, but a matter of a schematic (adverbial) construction. In other words, if the expression of the SI (or co-event in Talmy's terminology) in different languages has to be part of the typology, as it is in Talmy (2000), the typology has to be formulated and interpreted in terms of constructional features: lexical constructions versus schematic constructions.

4. Macro-event Constructions – The constituents of the typology

In this section I will reformulate the typology in terms of constructions of different specificity. As we shall see, a constructional unit in this revised typological framework may be lexical or schematic in nature. The basic constituents of the typology will be termed **macro-event constructions**. Recall that by the term event we do not refer directly to semantic/conceptual content. It has to be understood in a strictly cognitive sense, as a delimited unit of information related to linguistic processing. Macro-event constructions are thus information structure constructions that may either be constructions of the main information (MI-constructions, or MIC), or constructions of the supportive information (SI-constructions, or SIC). [SUBJ, V, OBJ, OBL] / 'MI' and [V] / 'SI' formalizes the MIC and SIC, respectively, related to expressions like: *Peter kicked the ball into the room*, in which the main information (MI) is 'X caused Y

to move Z', and the supportive information is 'X kicked Y'. These theoretical points will be explained, and exemplified, in detail below.

4.1 Constructions

It should be emphasized that I am not using the term construction in the traditional sense, as a complex syntactic structure. The present use of the term is linked to a specific theoretical context. This study has been carried out within the framework of construction grammar (e.g. Goldberg 1995, 2006; Croft 2000, 2001). Constructions are **form-meaning pairings of different specificity** (Goldberg 2006). Construction grammar is a usage-based approach (Bybee 1985; Langacker 1987, 1988). In usage-based approaches to grammar, grammatical structure emerges from language use in the sense that linguistic units are seen as being abstracted from usage events. Grammatical development and change is thus grounded on abstractions made from actual usage events. The fundamental implication of the usage-based model is that the existence of constructions (pairings of form and meaning) in grammatical representation is a function of frequency and similarity in form and meaning. Frequency is thus an important parameter in construction grammar. When a construction has a high frequency in usage, it is considered to have a high degree of entrenchment, i.e. cognitive automation, in grammar (Langacker 1987). A high degree of entrenchment means that the linguistic structure in question has a stable status in grammar.

Constructions are basic rather than epiphenomenal, and rules in grammar are abstracted schematic constructions (Goldberg 1995). Grammar is represented as a network of constructions of different specificity. Schematic constructions and more substantial constructions are thus the basic grammatical constituents of what is sometimes called **the constructicon** (e.g. Jurafsky 1996). Hence, the grammar

contains information about very specific (substantial) elements of language as well as more general patterns (schematic constructions). Constructions form a network and are linked by inheritance relations, which motivate many of the properties of particular constructions. Inheritance allows us to capture generalizations across constructions and particularly the fact that two constructions may be in some ways the same and in other ways distinct (Goldberg 1995: 72). It is further hypothesized that since constructions are the primitive units of representation, the categorical status of their elements is dependent on the construction(s) in which they occur, not the other way around (Croft 2001). Grammatical categories and relations are thus construction specific and undergo constant abstraction and (re)analysis by the users. As language users and language learners we face the task of categorizing utterances into discrete (construction) types. The question of how to identify constructions is thus essentially a categorization problem (Croft 2001). This is an empirical question that, in spite of its subtlety, in principle is testable.

The schema is a central term in the usage based model, and hence in construction grammar. A schema is defined as a cognitive representation of user's generalizations from structural similarities in usage (Goldberg 2006). Schemas are representations of patterns, used in the process of production and comprehension of linguistic expressions. In syntax, where focus is on linguistic form and combinations of form, schemas are often referred to simply as (schematic) constructions.

In the following examples, different construction types, relevant for Spanish, are listed:

Construction type	**Form**	**Meaning**
Lexeme:	[casa]	'house'

Morpheme:	[-s]	’plural’
Impersonal *se*, e.g.	[se, V3sg, a, OBJ]	’impersonal meaning’
Idiom:	[más vale tarde que nunca]	’better late than never’

Another important observation is that most of what we think of as constructions, for instance clausal constructions, contain a range of different constructions in their internal structure. For example (cf. Goldberg 2006):

(13) *¿Qué le hizo Pedro a la hija de Fernando?*
what DAT.3sg do-PST.3SG Pedro to the daughter of Fernando
’What did Pedro do to Fernando’s daughter?’

In the internal structure of the construction in (13) there are at least:

[Interrogative] – construction
[dative] – construction
[VP] – construction
[NP] – construction
[Lexeme] – constructions
[Flexive] – constructions (e.g. mode/aspect/tense)

In Goldberg’s framework, it is not entirely clear which principles govern the interaction of the various constructional levels of the grammar. Apart from being a construction grammar interpretation of Talmy’s descriptive typology, this paper is also intended to be a contribution to a better understanding of this issue.

4.2 Macro-event constructions - Procedural function

Macro-event constructions are **information structure constructions**, i.e. pairings of form and information-units; either units of the main-information (MI-constructions = **MIC**), or units of supportive information (SI-constructions = **SIC**).[8] For instance, [$SUBJ_i$ V $POSS_i$ *way* OBL] / 'MI' and [V] / 'SI' are MIC and SIC, respectively, related to expressions like *Peter fought his way out of the restaurant*, in which 'X moving Y by creating intentionally a path' is the main information (MI) and '(X) fought' represents the supportive information (SI). Macro-event constructions are information structure constructions in the sense that they represent entrenched generalizations about how the information is organized in the clause. Consequently, their basic function is procedural. Macro-event constructions are hypothesized to exist as **pairs of MIC and SIC**. Knowledge of MIC/SIC in grammar helps the user to organize grammatical information, and in processes of production and reception to generate and interpret complex expressions. I hypothesize that the existence of MIC/SIC types in grammar is due to users' constant generalizations from usage, cf. the usage based approach, and that their function is related to grammatical procedure rather than conceptual representation. An important question is: under which conditions are macro-event constructions, i.e. pairs of MIC/SIC, activated in usage? My proposal is tentatively that MIC/SIC-pairs are activated in production and comprehension when the clausal expression has the macro-event property (MEP) (Bohnemeyer *et al* 2007). An expression has the MEP if it packages event representations such that temporal operators necessarily have scope over all subevents. Expressions that have the MEP present an event in terms of a unique initial and/or

[8] For a general treatment of relations between form and information-units, see Lambrecht (1994).

terminal boundary, a unique duration, and a unique position on the time line (Bohnemeyer *et al* 2007: 524). I will further hypothesize that the MEP itself is stored in the grammar as an abstract MEP-construction (form-meaning pair), distilled out of usage via generalization, and linked to (the internal structure of) expressions of macro-events. Further research, however, will have to reveal the exact nature of the MEP. See also the discussion in Bohnemeyer *et al* (2007).

5. A generalized typology of macro-event constructions

There seems to be a certain regularity in the way different languages organize the information in a number of complex expressions. Different patterns of information structure may be observed in different language types. In this study it is hypothesized that these patterns are distilled out of usage, in the sense that they stem from users' constant generalizations from usage. I will suggest that main information constructions (MIC) and supportive information constructions (SIC) of varying degrees of specificity should be the basic constituents of a generalized typology of macro-events.

[SUBJ, V, OBL…] / 'MI', a schematic construction of the main information, and [V] / 'SI', a lexical (verbal) construction of the supportive information, are typical MIC/SIC in Germanic languages like Danish, English and German. In Romance languages, [V] / 'MI', a lexical (verbal) construction of the main information, and [ADV-form] / 'SI', a schematic (adverbial) construction of the supportive information, are typical patterns.

MIC/SIC are entrenched in the grammar to different degrees in different languages. Some MIC/SIC play a dominant role, while others are less prominent. This framework provides us with a typological characterization that is not reduced to one

determined set of lexicalization patterns. I believe this is an advantageous, and necessary, theoretical adjustment of Talmy's typology. In the first place, it offers a more adequate description of typological regularities. It is, moreover, also important from an empirical point of view, since we have to face the existence of a vast amount of data, in all the languages studied, which do not follow the typological patterns suggested by Talmy.

The constructional approach permits us (as we shall see in Section 5.1 to 5.4) on the one hand to analyze an even broader range of expressions as instances of the same typological patterns, and on the other hand, to handle the substantial amount of data that do not fit the basic patterns. When qualifying the MIC and the SIC with respect to schematicity, only the possession of the schematic feature will be focused on. For instance, when a MIC is qualified as being schematic, it is implied that the MI is not organized and encoded, and cannot be identified solely by a lexical item; it is organized and encoded, and can only be identified by a more complex schematic construction. A schematic MIC is precisely in this sense different from a lexical MIC, though it is obvious that lexical information in general is relevant for the specification of the content.

How do we know that information structure constructions (MIC/SIC) actually exist, and that they are relevant for the typology? it may be objected. Are they not just the linguist's generalizations upon clausal content and form, and cannot they simply be derived from specific complex expressions of conceptual content, such as expressions of motion, that have the macro-event property (Bohnemeyer *et al* 2007)? MIC/SIC are, in fact, derived from expressions of conceptual content, but importantly, only if we look at it in a diachronic perspective. This is just as true as the fact that Goldberg's schematic constructions over time are derived, via constant generalizations over usage,

from verbal (lexical) content. Synchronically, MIC/SIC, and Goldberg's schematic constructions, are not derived elements of grammar. That is exactly what defines them as constructions in the construction grammar framework (Goldberg 1995, 2006). Goldberg's schematic constructions are not synchronically derived from lexical content since they may be used independently from the verbal meaning (valence structure). MIC/SIC are not synchronically derived from complex expressions of conceptual content since they have their own, independent, procedural role in grammar: they organize the information in chunks of main information and chunks of supportive information. The hypothesis of this paper is that the typological patterns are anchored in this task, and that MIC/SIC, therefore, are the basic constituents of the typology. Thereby, the typology is better suited for analyzing actual usage data since information structure is highly sensitive to users' (including translators') individual choice and strategies in performance.

5.1 Motion events

The expressions of transitive motion (caused motion events) in (14) and (15) contain two information units whose formal expressions are packed in a simple clause structure: The main information (MI) is about causing an entity to move: 'X causes Y to move Z', and the supportive information (SI) is a specification of the causal factor, i.e. more specifically, how did the caused motion event come about?[9]

(14) *Fred stuffed the papers in the envelope* (Goldberg 1995)

[9] The English version in some of the examples in the following sections is taken from Goldberg (1995), who argues for the existence of constructional meaning in general. The Spanish version is provided by native speakers at the University of Copenhagen.

Fred presse-de papirerne ned i konvolutten (Danish)

Fred press-PST the papers down into the envelope

Schematic MIC: [SUBJ, V, OBJ, OBL] / ‘MI’

Lexical SIC: [V] / ’SI’

Fred met-ió con dificultad los papeles en el sobre

Fred place-PST.3SG with difficulty the papers in the envelope

Lexical MIC: [V] / ’MI’ (Spanish)

Schematic SIC: [ADV-form] / ‘SI’

In (14) the MI (‘X causes Y to move Z’) is in English and Danish schematically expressed by the formal pattern: [SUBJ, V, OBJ, OBL], while the SI (‘the specification of the causal factor’ = ‘X *stuffed*/*pressede* Y’) is lexically expressed. Notice, in continuation of the discussion of (9), that in terms of lexicalization it is implausible to claim that the MI is lexically encoded in the English and Danish version (*in*…/*ned i*…). In Spanish the MI (‘X causes Y to move Z’) is lexically expressed (*metió*), whereas the SI, the specification of the main information, is expressed by an adverbial construction, [X… *con dificultad*]. Here it is implausible to claim that the SI is lexically encoded. The reason is that *dificultad* simply represents information about ‘a difficulty’, while the adverbial construction [X…*con dificultad*] provides specifying information, with respect to ‘X causes Y to move Z’ (MI) about the causal factor. We find the same patterns in (15):

(15) *Sam washed the soap out of her eyes* (Goldberg 1995)

Sam vaskede sæben ud af hendes øjne (Danish)

Schematic MIC: [SUBJ, V, OBJ, OBL] / ‘MI’

Lexical SIC: [V] / ’SI’

Sam le quit-ó el jabón de los ojos con agua

Sam DAT.3SG take away-PST.3SG the soap from the eyes with water

Lexical MIC: [V] / ’MI’ (Spanish)

Schematic SIC: [ADV-form] / ‘SI’

In English and Danish the MI (‘X causes Y to move Z’) and the SI (the specification) is expressed by a schematic and a lexical (verbal) construction respectively. In Spanish the MI is constructed lexically (*quitó*) while the expression of the SI is an adverbial construction (*con agua*).

If this analysis is applied to expressions of intransitive motion events, see (1), reproduced here as (16), we will find that the MI, ‘X moves Y’, is encoded by a schematic construction, [SUBJ, V, OBL], in English and Danish. The SI, ‘the manner of motion’, is lexically expressed:

(16) *The bottle floated into the cave* (Talmy 1985)

Flasken flød ind i hulen (Danish)

Schematic MIC: [SUBJ, V, OBL] / ‘MI’

Lexical SIC: [V] / ‘SI’

La botella entr-ó en la cueva flot-ando (Spanish)

the bottle enter-PST.3SG in the cave float-GER

Lexical MIC: [V] / ‘MI’

Schematic SIC: [ADV-form] / ‘SI’

In Spanish the MI is lexically expressed by the main verb (*entró*), whereas the SI is expressed by an adverbial construction. Notice that the specifying information cannot be identified lexically by the verb *float* per se. The schematic adverbial form [(main clause) V-gerund] provides the supportive specification.

5.2 Resultatives

Talmy analyzes (resultative) expressions of what he terms (macro) events of realization/completion, though he does not provide any Spanish examples. See Talmy 2000: 262f:

(17) *I kicked the hubcap flat*

(18) *I washed the shirt clean*

He argues that the satellites *flat* and *clean* encode the main event, and that the verbs *kicked* and *washed* encode the co-event (Talmy, 2000: 262ff + 278ff). However, it is not very convincing that the basic meaning component ‘X causing Y to become *flat*/*clean’* should be attributed to the meaning of the satellite *flat*/*clean* per se, cf. the analysis of (9): *he kicked the ball into the box*.

Goldberg (1995) does not discuss Talmy’s work, but in her analysis of the English resultative she provides basically the same counter-argument, though she focuses on the verb and its contribution to the clausal meaning. In short, she argues that the basic meaning of the clause, i.e ‘X causes Y to become Z’ , cannot convincingly be assigned to the lexical meaning of the verb, *kicked* in (17) and *washed*

in (18). Instead, she claims that the basic meaning of the clause is provided by a schematic construction. The independent role of the schematic construction, which is perhaps the most important principle in Goldberg's 1995 book, is criticized by Hans Boas in his work on the resultative construction (e.g. Boas 2003). In particular, he criticizes what he sees as a top-down approach that is not detailed enough to account for the licensing of resultative phrases and non-subcategorized NP's. He argues that a more precise lexical analysis of the different senses of a verb provides a more fine-grained system that may account for the distribution of resultative expressions that occurs with a given verb. Boas' proposals implicate a shift of the explanatory burden from the level of abstract constructional semantics to the level of concrete verbal semantics (Boas 2003: 313ff.). It should be noted, though, that in her 2006 book, Goldberg is much more explicit about the usage based status of her framework. She makes it very clear that the existence of schematic constructions in language is due to users' generalizations over usage, and that the variety of constructions within a given language exists to enable speakers to package information in useful ways (Goldberg 2006: 228). Boas' approach is interesting for the analysis of Spanish, and other Romance languages, in which expressions of resultative meaning (and other meaning structures, as exemplified in this paper) tend to be lexically organized and centred in verb semantics. In fact, contrastive data seem to indicate that there are systematic differences between English and Spanish with respect to the way information is organized in the clause (Mendívil Giró 2003, Pedersen in press, Snyder 2001). Constructions of resultative meaning, for instance, appear to be relatively schematic in English as compared to parallel Spanish versions, which tend to be centred in the verb.

Elaborating on Goldberg's analysis (Goldberg 1995, 2006), I will suggest that in resultative expressions, the MI is the schematic meaning 'X causes Y to become Z'; and the SI is a specification of that meaning:

(19) *She kissed him unconscious* (Goldberg 1995)

Schematic MIC: [SUBJ, V, OBJ, PRED] / 'MI'

Lexical SIC: [V] / 'SI'

Le *desmay-ó* *con un beso* (Spanish)

ACC.3SG. faint-PST.3SG with a kiss

Lexical MIC: [V] / 'MI'

Schematic SIC: [ADV-form] / 'SI'

It seems implausible to claim that the MI is lexically constructed in the English version in (19). The lexeme *unconscious* does not encode, neither directly nor indirectly, the basic meaning 'X causes Y to become Z' since *unconscious* per se could also refer to *she is unconscious*, whose meaning is by no means 'resultative'. Alternatively, I suggest that the encoding of the MI ('X causes Y to become Z') is centred in a schematic construction in English and in a lexical (verbal) construction in Spanish. The supportive information is expressed lexically in English and schematically in Spanish. (20) may be analyzed as (19):

(20) *She* *licked* *the plate* *clean*

Hun *slikkede* *tallerkenen* *ren* (Danish)

Schematic MIC: [SUBJ, V, OBJ, PRED] / 'MI'

Lexical SIC: [V] / ’SI’

Ella limp-ió el plato con la lengua (Spanish)
she clean-PST.3SG the plate with the tongue
Lexical MIC: [V] / ’MI’
Schematic SIC: [ADV-form] / ‘SI’

The MI, the resultative meaning, is encoded by a schematic construction. It is not encoded lexically by *clean* for the same reason that the MI is not expressed lexically by *unconscious* in (19). In the Spanish version, we see the characteristic pattern, cf. (19). Notice again that while the MI is encoded lexically by the verb, the expression of the supportive information (SI) shows typological regularity as a schematic adverbial construction. The lexical specification of the adverbial construction is not relevant as a typological regularity, as I have already pointed out. It would make little sense to claim, as a statement about typological patterns, that the SI in the Spanish version is expressed by a noun (*lengua* ‘tongue’). The supportive information may be provided in a number of ways (different construction types), most frequently perhaps the SI is expressed by means of the gerund (verb phrase construction), and specified by a verbal lexeme.

Some expressions of ‘state change’ (Talmy 2000), see above and (3), reproduced here as (21), may also be analyzed as a specific kind of resultatives in terms of macro-event constructions. The MI is ‘X causes Y to become Z’ and the SI is a specification of the causal factor. See also Section 6.3.

(21) *I blew the candle out* (Talmy 1991)

Jeg pustede stearinlyset ud (Danish)

Schematic MIC: [SUBJ, V, OBJ, OBL] / ‘MI’

Lexical SIC: [V] / ’SI’

Apag-ué la vela de un soplido (Spanish)

put out-PST.1SG the candle by a blow

Lexical MIC: [V] / ’MI’

Schematic SIC: [ADV-form] / ‘SI’

5.3 Temporal contour (aspect)

As demonstrated in Section 1.1, aspectual structures may also be expressed as macro-events. The MI is the aspectual structure and the supportive information (SI) is the activity/process in question. However, aspectuality is a very special semantic domain for two particular reasons. In the first place, no action, activity or state is involved as main information (MI), only as secondary information (SI). Secondly, aspectuality is an integrated part of the lexical meaning of every verb phrase. Therefore, the claim maintained by Talmy (2000), that the MI (the main event in Talmy’s terminology) is expressed specifically by a satellite in some languages, e.g. Germanic languages, and by the verb, in other languages, like e.g. Spanish, is not completely convincing. See (4), reproduced here as (22):[10]

(22) *I had just eaten* (Talmy 2000)

[10] According to Talmy (2000: 233), English seems to represent a mixed typological picture, both in the domains of ‘motion’ and ‘temporal contouring’ (aspect), though it leans toward qualifying as being satellite framed.

Jeg havde lige spist (Danish)

Schematic MIC: [AUX, SAT, V] / ’MI’

Lexical SIC: [V] / ’SI’

Acab-aba *de comer* (Spanish)

finish-PST.IPFV.1SG to eat

Schematic MIC: [acab-PST.IPFV, de, V-INF] / ‘MI’

Lexical SIC: [V] / ‘SI’

In English and Danish, the MI (the aspectual structure) is expressed by a perfective verb phrase-construction in combination with a satellite. The SI is lexically expressed by the verb. In Spanish, the MI is expressed by an imperfective verb phrase-construction in combination with the verb *acabar*, the preposition *de* and a verb in the infinitive flexional form. The SI is expressed by a specific verbal lexeme. In short, in the English and Danish version, as well as in the Spanish version, the MI, the aspectual structure, cannot be delimited to stem from a specific lexeme. In the three languages, the MI is encoded by a complex schematic construction.

5.4 Perception

Some frequent expressions of perception may be analyzed in terms of macro-event constructions. The main information (MI) is ‘X perceives Y’ and the supportive information (SI) is ‘the manner of perception’:

(23) *She looked happy*

Schematic MIC: [SUBJ, V, PRED] / ’MI’

Lexical SIC: [V] / ‘SI’

Hun	*så*	*glad*	*ud*	(Danish)
Sie	*sah*	*froh*	*aus*	(German)
she	looked	happy	out	

Schematic MIC: [SUBJ, V, PRED, OBL] / ’MI’

Lexical SIC: [V] / ‘SI’

Parec-ía	*contenta*	*(observ-ándo-la)*	(Spanish)
seem-PST.3SG	happy	observe-GER-ACC.3SG	

Lexical MIC: [V] / ’MI’

Schematic SIC: [ADV construction] / ‘SI’

In the English version, the perception path, someone else (e.g. the speaker) perceiving the subject (her), is not lexicalized solely by the perception verb *look* since this verb could also appear in frequent expressions like: *she looked out of the window* in which, even though the basic meaning of visual perception would be the same, the perception path would be the opposite: perception by the subject (her) of something else.[11] Neither is it lexicalized, obviously, in the adjective *happy*. This demonstrates, again, that the main information (MI), the act of perception by X directed toward Y, is expressed by a schematic construction. The supportive information (SI), the visual manner of perception, on the other hand, is expressed lexically by the verb (*look*). The Danish

[11] Expressions of this kind of (basic) visual perception by the clausal subject have been studied in a crosslinguistic perspective by Slobin, among others. See Slobin (forthcoming) and references cited there.

and the German version show a similar pattern: neither the verb *så*/*sah* nor the satellite *ud*/*aus* lexicalize the act of perception (MI) since both lexemes appear in the frequent expression type: *hun så ud af vinduet* / *sie sah aus dem Fenster* (‘she looked out of the window’), in which, as in the English version, the perception path is: perception by the subject (her) of something else. And it is not convincing at all to claim that the MI is lexicalized by the adjective *glad*/*fröhlich*. Also in this case the only plausible solution is to say that a schematic construction is an essential part of the encoded act of perception (MI). As regards the supporting information (SI), the visual manner of perception, the SI is lexically expressed by the verb (*så*/*sah*).

In the Spanish version, the act of perception (MI) is expressed lexically by the verb *parecer*, while the visual manner of perception, the supportive information (SI), may be expressed by an adverbial construction. We use the same construction when the act of perception is auditory:

(24) *(Escuch-ándo-la)* *parec-ía* *irrit-ada* (Spanish)
listen-GER-ACC.3SG.F seem-PST.3SG irritate-PTCP.F
’When I listened to her, she seemed irritated’
Lexical MIC: [V] / ’MI’
Schematic SIC: [ADV construction] / ‘SI’

Notice that English and Danish have similar constructions, in which the act of perception (MI) is expressed verbally, while the manner of perception (SI) is unspecified:

(25) *She* *seemed (to be)* *irritated*

Hun *virkede* *irriteret* (Danish)

Lexical MIC: [V] / ’MI’

Moreover, in Spanish we also find a pattern that is similar to the typical English one (*she looked tired*), cf. (23):

(26) *Pedro* *la* *ve-ía* *cans-ada* (Spanish)

Pedro ACC.3SG.F see-PST.IPFV.3SG tire-PTCP.F

Schematic MIC: [SUBJ, V, PRED] / ‘MI’

Lexical SIC: [V] / ‘SI’

It is interesting to notice that in all four languages discussed in this section, the act of perception (MI) and the specification of the manner of perception (SI) are in some cases expressed verbally, in the same lexical construction:[12]

(27) *She* *sounded* *irritated*

Sie *klang* *gereizt* (German)

Hun *lød* *irriteret* (Danish)

Ella *sonaba* *irritada* (Spanish)

Lexical MIC: [V] / ’MI, SI’

[12] In the data only one particular expression type represents this pattern: *She sounded irritated*. See also Rojo and Valenzuela’s contrastive study of English and Spanish verbs of perception (Rojo and Valenzuela 2005).

We have seen in this section that contrastive analysis of expressions of macro-events indicate that a generalized version of the typology has to include not only a lexical level of analysis, but also a more schematic constructional level of analysis. In this perspective, the typology is a matter of mapping out macro-event constructions in different languages in terms of lexical constructions versus schematic constructions. Hence, the typology is not simply a question of identifying patterns of lexicalization. MIC/SIC, the constituents of the typology, are entrenched generalizations about how the principal and the secondary information are organized. The function of MIC/SIC is thus procedural rather than related to symbolic representation of specific conceptual structures. This revised version of the typology permits us to analyze a broader range of expressions as instances of the same typological pattern. Moreover, the constructional approach permits us to include, in a predicted and systematic way, more variation in the typological description. As will be demonstrated in the following sections, in order to work out a typological description that has a broader and more general scope, on the one hand, and includes more variation on the other, the first step has been to carry out a pilot study.

6. A contrastive analysis of macro-event constructions

As the empirical part of this study, and as a pilot study, I have carried out a contrastive analysis of a short story (The Snowman) by H. C. Andersen. The corpus material is available, digitally, in six parallel versions: the original Danish version, an English, a German, a Spanish, an Italian and a French version (Andersen 2005). In a joint project (The Mulinco Project), the Centre for Language Technology and the Department of English, Germanic and Romance Studies at the University of Copenhagen have

collaborated in the development of a corpus platform that contains parallel corpora. Parallel corpora are a particularly suitable tool for contrastive and typological linguistic research. A set of parallel corpora contains translated texts in various languages. The texts are aligned by sequence or period, so that by searching for an expression in one language you will get direct access to the corresponding sequences of text in other languages. The creation of large, digital parallel corpora, sequentially aligned, makes it possible to carry out multilingual typological research on Macro-event Constructions. So far macro-event constructions (MI-constructions and SI-constructions) have been identified on the basis of semantics, cf. the headings of the subsections in Section 5. It is a very complicated task, however, to search for semantically defined entities because the available software can search only on surface form. This is a serious matter that needs to be solved in the planning of larger scale research projects, for instance, by identifying recurrent formal patterns that determine a basic inventory of macro-event constructions.

In the following subsections, I will exemplify the general analysis by analyzing a number of text sequences from The Snowman (Andersen 2005) in six parallel versions: The original Danish version, an English, a German, a Spanish, an Italian and a French version.[13] I am aware that some of the examples, e.g. (23), represent metaphorical, or figurative, extensions from the conceptual categories that have defined the inventory of macro-events in Talmy's work. One of them, (29), is even completely unrelated to the Talmian framework. In fact, it is easy to find prototypical examples, which are directly comparable with the examples in Talmy's work, to exemplify the present framework, see this section and Section 5. Some of the examples

[13] In the analysis, I have, for reasons of simplicity, not taken into account constructional variation due to word order.

chosen for this section are therefore intended to demonstrate that there is in principle no reason why the typology should be limited to include only the five specific semantic domains identified by Talmy.[14] Of course, we have to recognize, though, the significance of the huge amount of descriptive typological work, mostly on expressions of the motion event, that represent evidence for his proposals from an extremely broad range of languages.

6.1 Motion events

(28) *Det lys-te rødt lige op af hans Bryst.*
it shine-PST red right up of his breast
Schematic MIC: [SUBJ, V, OBL] / 'MI'
Lexical SIC: [V] / 'SI'

(28a) *It gleamed red upon his bosom*
Schematic MIC: [SUBJ, V, OBL] / 'MI'
Lexical SIC: [V] / 'SI'

(28b) *Es leucht-ete rot seine ganze Brust herauf*
It shine-PST.3SG red his whole breast up
Schematic MIC: [SUBJ, V, OBL] / 'MI'
Lexical SIC: [V] / 'SI'

[14] I.e. motion event, event of state change, event of temporal contouring, event of action correlating and event of realization (Talmy 2000).

(28c) *Su* *pecho* *desped-ía* *también* *un* *brillo*
his chest emit-PST.IPFV.3SG also a light
rojizo
reddish
Lexical MIC: [V] / ‘MI’
Lexical SIC: [NP] / ‘SI’

(28d) *Illumin-ava* *di* *rosso* *il suo petto*
Illuminate-PST. IPFV.3SG with red his breast
Lexical SIC: [V] / ‘SI’

(28e) *La* *blanche* *poitrine* *du* *Bonhomme* *de* *neige*
the white chest of the man of snow
en recev-ait *des reflets* *rouges*
receive-PST. IPFV.3SG reflections red
Lexical MIC: [V] / ‘MI’
Lexical SIC: [NP] / ‘SI’

In (28), the Danish, the English and the German version, as expected, express the MI (‘X moves Y’) in a schematic construction [SUBJ, V, OBL] / ‘MI’). Specifying information (SI) about the motion event, which has to be understood in a figurative sense as light that moves, is verbally expressed. In the Spanish and the French versions, the MI is expressed verbally (= *emit* and *receive* respectively). The supportive SI is expressed by a NP (= *a redish light/reflections*). Notably, the Italian version does not express the motion event. Instead, it focuses exclusively on the event

of illumination, which is expressed by means of a lexical construction centred in the verb (*illuminava*). In (29), in which the motion event is transitive, we find the same pattern, though in this case the Italian version follows the "Germanic" pattern. In the Danish, English, German and Italian version, the MI ('X causes Y to move Z') is expressed by a schematic construction, whereas the SI, the secondary specification, is verbally expressed. In Spanish and French, the MI is verbally constructed, and not further specified, i.e. there is no SI encoded.

(29) *Hvor det klæde-r hende at rækk-e Tungen ud!*
how it suit-PRS her to stretch-INF the tongue out
Schematic MIC: [(SUBJ), V, OBJ, OBL] / 'MI'
Lexical SIC: [V] / 'SI'

(29a) *How beautiful it looks when it stretches out its tongue*
Schematic MIC: [SUBJ, VP, OBJ, OBL] / 'MI'
Lexical SIC: [V] / 'SI'

(29b) *Wie schön es ihr steh-t, die Zunge so*
how beautiful it her stand-PRS.3SG the tongue so
heraus-zu-streck-en
out-to-stretch-INF
Schematic MIC: [SUBJ, V, OBJ, OBL] / 'MI'
Lexical SIC: [V] / 'SI'

(29c) *Qué bien le sient-a eso de sac-ar*

how well DAT.3SG become-PST.3SG that take-INF out

la lengua

the tongue

Lexical MIC: [V] / ‘MI’

(29d) *Come le don-a quando tir-a*

how DAT.3SG give-PRS.3SG when stretch-PRS.3SG

fuori la lingua

out the tongue

Schematic MIC: [SUBJ, VP, OBJ, OBL] / ‘MI’

Lexical SIC: [V] / ‘SI’

(29e) *C'est si bon lorsque la langue lui sort*

that’s so fine when the tongue DAT.3SG hang-PRS.3SG out

de la bouche

of the mouth

Lexical MIC: [V] / ‘MI’

Example (30) shows the same patterns. In the Danish, English, German and Italian version a lexical (verbal) construction is used to specify the causal factor of the motion event (SI), while the lexical (verbal) construction expresses the MI (‘X causes Y to move Z’) in the Spanish and the French version (*quitó*, *prendre*). Notice that the Italian version of the motion event is not constructed in the same way as a macro-event with main information and supportive information. Only a specifying information unit is expressed. The main information (MI), which in the other languages is explicitly

encoded, has to be inferred in the Italian version. Correspondingly, only the MI ('X causes Y to move Z') is explicitly expressed (verbally) in the Spanish and the French version, leaving the specification (SI) for inferential contextualization.

(30) *Han stød-te fra mig det Been, jeg gnave-de paa*
he push-PST away from me the bone I gnaw-PST on
Schematic MIC: [SUBJ, V, OBJ, OBL] / 'MI'
Lexical SIC: [V] / 'SI'

(30a) *He kicked away the bone I was gnawing*
Schematic MIC: [SUBJ, V, OBJ, OBL] / 'MI'
Lexical SIC: [V] / 'SI'

(30b) *Er mir den Knochen weg-stieß, an dem*
he DAT.1SG the bone away-push-PST.3SG on which
ich nag-te
I gnaw-PST.1SG
Schematic MIC: [SUBJ, V, OBJ, OBL] / 'MI'
Lexical SIC: [V] / 'SI'

(30c) *Me quit-ó un hueso que*
DAT.1SG take-PST.3SG away a bone that
est-aba ro-yendo
be-PROG.PST.IPFV.1SG gnaw-GER
Lexical MIC: [V] / 'MI'

(30d) *Aveva* *da-to* *un calcio* *all' osso* *che*

AUX-PST. IPFV.3SG give-PTCP a kick to the bone that

stavo *rosicchi-ando*

be-PROG.PST. IPFV.1SG gnaw-GER

Schematic SIC: [SUBJ, V, OBJ] / 'SI'

(30e) *qui* *ven-ait* *de* *me* *prend-re* *un* *os*

which come-PST. IPFV.3SG of DAT.1SG take-INF away a bone

'Which just had taken a bone away from me'

Lexical MIC: [V] / 'MI'

6.2 Aspect

(31) exemplifies the macro-event 'temporal contour'. It contains the basic information (MI) about the aspectual structure (something happens again) and a specification (SI) of the involved verbal process (something appears). In the Danish, English, German and French versions, the MI is lexicalized in a satellite: *igjen, again, wieder, de nouveau*, while the SI is expressed verbally: *viste sig, showing himself, zeigt sich, se montrait.* In the Spanish and the Italian versions, the MI is expressed lexically (verbally) in a specific schematic construction: [*volvía/tornava* + *a* + infinitive], whereas the SI is expressed lexically: *aparecer, mostrarsi*:

(31) *Han* *tro-ede,* *at* *det* *var* *Solen,* *der* *vis-te* *sig*

he think-PST that it be-PST the sun that show-PST itself

igjen

again

Lexical MIC: [SAT] / ’MI’

Lexical SIC: [V] / ’SI’

(31a) *He intended to say the sun is showing himself again*

Lexical MIC: [SAT] / ’MI’

Lexical SIC: [V] / ’SI’

(31b) *Damit woll-te er sag-en: die Sonne zeig-t*

Thus want-PST.3SG he say-INF the sun show-PRS.3SG

sich wieder

REFL.3SG again

Lexical MIC: [SAT] / ’MI’

Lexical SIC: [V] / ’SI’

(31c) *Cre-ía que era el sol que*

think-PST.IPFV.3SG that be-PST.IPFV.3SG the sun that

volv-ía a aparec-er

return-PST.IPFV.3SG to appear-INF

Schematic MIC: [Volvía, a, V-INF] / ‘MI’

Lexical SIC: [V] / ’SI’

(31d) *Cred-eva che fosse il sole che*

think-PST. IPFV.3SG that be-PST.IPFV.SBJV.3SG the sun that

torn-ava a mostr-ar-si

return-PST. IPFV.3SG to appear-INF-REFL.3SG

Schematic MIC: [tornava; a; V-INF] / ‘MI’

Lexical SIC: [V] / ’SI’

(31e) *Il pens-ait que c' était le soleil qui*

he think-PST. IPFV.3SG that be-PST. IPFV.3SG the sun that

se montr-ait de nouveau

REFL.3SG show-PST. IPFV.3SG again

Lexical MIC: [SAT] / ’MI’

Lexical SIC: [V] / ’SI’

6.3 State change

Some expressions pertain to a semantic domain that I will term change of condition, which is a subcategory of the more general category state change.[15] Expressions of change of condition may profitably be analyzed typologically in terms of macro-event constructions. The main information (MI) is about the change of condition and can be formalized as: ‘X causes Y to be in condition Z’. The supportive information (SI) specifies how this change comes about (‘the manner’).

In (32), the MI is about a change of condition: ‘X causes Y to be in condition Z’ (from being in a state of freedom to being chained up). The SI specifies how this change of condition has come about. In the Danish, German, Italian and the French versions, the MI is expressed in a complex schematic construction: [SUBJ, V, OBJ, OBL]. In the English and the Spanish versions, the MI is expressed verbally: *chained*, *encadenaron*. The SI is expressed verbally in the Danish and the German versions: *De*

[15] Talmy presents examples of what he calls *change in condition*, which is a slightly different category.

satte mig, Man legte mich, while the SI is not expressed in the English, Spanish, Italian and the French versions:

(32) *De satte mig her i Lænke*
they seat-PST me here in chain
Schematic MIC: [SUBJ, V, OBJ, OBL] / 'MI'
Lexical SIS: [V] / 'SI'

(32a) *Man leg-te mich hier an die Kette*
they lay-PST.3SG me here in the chain
Schematic MIC: [SUBJ, V, OBJ, OBL] / 'MI'
Lexical SIS: [V] / 'SI'

(32b) *They chained me up here*
Lexical MIC: [V] / 'MI'

(32c) *Me encaden-aron*
ACC.1SG chain-PST.3PL
Lexical MIC: [V] / 'MI'

(32d) *Mi hanno messo qui al-la catena*
ACC.1SG AUX-PRS.3PL put-PTCP here in-the chain
Schematic MIC: [SUBJ, V, OBJ, OBL] / 'MI'

(32e) *On me mit à l'-attache*

one ACC.1SG put-PST.3SG in the-chain

Schematic MIC: [SUBJ, V, OBJ, OBL] / 'MI'

(32) divides the languages into three groups: 1) Danish/German; 2) English/Spanish; and 3) Italian/French, demonstrating that Italian and French in this case share features with Danish and German as well as with English and Spanish.

In (33), the MI is figuratively a state change, 'X causes Y to become Z' (from not being alive to being alive). The supportive information is a specification of how the change of state has come about. In the Danish, English and German versions, the MI is constructed by a schematic construction: [SUBJ, V, OBJ, OBL]. The SI is encoded by verbal organization (predicate + arguments). In the Spanish and Italian versions, the MI is encoded lexically by verbal organization: *infundir* (*vida)***,** *ridare* (*vita*), and the SI, the way in which the change of state has come about, is expressed nominally: *el viento cortante / el vento*:

(33) *Vinden kan rigtignok bid-e Liv i Een!*

the wind may-PRS.3SG indeed bite-INF life into one

Schematic MIC: [SUBJ, V, OBJ, OBL] / 'MI'

Lexical SIC: [V] / 'SI'

(33a) *This is a kind of wind that can blow life into one*

Schematic MIC: [SUBJ, V, OBJ, OBL] / 'MI'

Lexical SIC: [V] / 'SI'

(33b) *Der Wind kann einem wirklich Leben ein-beiß-en*

the wind may-PRS.3SG to one indeed life into-blow-INF

Schematic MIC: [SUBJ, V, OBJ, OBL] / 'MI'

Lexical SIC: [V] / 'SI'

(33c) *El viento cortante pued-e infund-ir vida en uno*

the wind cutting may-PRS.3SG instill-INF life into one

Lexical MIC: [V] / 'MI'

Lexical SIC: [NP] / 'SI'

(33d) *Il vento sa proprio rida-re vita*

the wind know-PRS.3SG really give-INF back life

Lexical MIC: [V] / 'MI'

Lexical SIC: [NP] / 'SI'

(33e) *Et ce vent cinglant, comme il vous fouett-e*

and this wind biting how it you whip-PRS.3SG

agréablement!

pleasantly

Lexical MIC: [V] / 'MI'

Lexical SIC: [NP] / 'SI'

6.4 Complex circumstances

The MIC/SIC-model helps us to recognize general typological patterns in usage that we otherwise would not be aware of. A description of complex circumstances may be performed by organizing the information as macro-event constructions. In (34), the

complex situation is the following: the dog is fastened to a chain, and the dog lies out in the cold. The main issue (MI), 'X is in circumstance Y', is (or rather: may be chosen to be) that the dog is fastened to a chain. The specifying information (SI), 'X is in circumstance Z', is that this scenario takes place out in the cold. In the Danish, the German, the Italian and the French versions, the MI is expressed by a schematic construction, e.g. *jeg stod ikke i lænke* (Danish), [SUBJ, V, OBL] / 'MI'. The expression of the SI is likewise schematic, e.g. *jeg stod ikke her I kulden* (Danish), [SUBJ, V, OBL] / 'SI'. The Spanish version follows a typical pattern, i.e. the MI is verbally organized: (*estar*) *encadenado*, [V] / 'MI', while the SI is added as an adverbial construction: *a la intemperie*, [ADV-form] / 'SI'. The English version has mixed properties. The MI is verbally organized, as it is in the Spanish vesion: *fastened to a chain*, while the specifying information (SI) is expressed by a schematic construction: *I (did not) lie out here in the cold*, [SUBJ, V, OBL] / 'SI', as it is in the Danish, German, Italian and the French versions.

(34) *en Tid, hvor jeg ikke stod her i kulden*
a time when I not stand-PST.1SG here in the cold
i lænke
in chain
Schematic MIC [SUBJ, V, OBL] / 'MI'
Schematic SIC [SUBJ, V, OBL] / 'SI'

(34a) *eine Zeit, da lag ich nicht hier in der Kälte*
a time when lie-PST.1SG I not here in the cold
an der Kette

in the chain

Schematic MIC [SUBJ, V, OBL] / ‘MI’

Schematic SIC [SUBJ, V, OBL] / ‘SI’

(34b) *a time when I did not lie out here in the cold, fastened to a chain*

Schematic MIC: [Free predicative construction] / ‘MI’

Schematic SIC: [SUBJ, V, OBL] / ‘SI’

(34c) *un tiempo en que no ten-ía que est-ar*

a time when not have-PST. IPFV.1SG to be-INF

encaden-ado a la intemperie

chain-PTCP in the bad weather

Lexical MIC: [V] / ‘MI’

Schematic SIC: [ADV-form] / ‘SI’

(34d) *tempi in cui non st-avo qui alfreddo al-la*

time when not be-PST. IPFV.1SG here in the cold in-the

catena

chain

Schematic MIC [SUBJ, V, OBL] / ‘MI’

Schematic SIC [SUBJ, V, OBL] / ‘SI’

(34e) *un temps où je n'-ét-ais pas dans la cour,*

a time when I NEG-be-PST. IPFV.1SG not in the yard

au froid à l'-attache

in the cold in the-chain

Schematic MIC [SUBJ, V, OBL] / ‘MI’

Schematic SIC [SUBJ, V, OBL] / ‘SI’

The analysis of (34) shows, to some extent, similarities with the analysis of macro-event constructions in other semantic domains, particularly with respect to the Spanish type. This indicates that a typology formulated in terms of MIC/SIC has an extended, more general application. But it also indicates that by applying the MIC/SIC-model for typological analysis, we may account for important typological peculiarities in each language.

7. Some results

Table 1 summarizes the analysis by listing the most commonly occurring pairs of macro-event constructions that have been identified in the languages examined in this pilot study.

[Table 1 near here]

In the first part of Table 1, construction type 1-6, we have MIC/SIC in which the main information (MI) is not, while the supportive information (SI) is, organized and encoded by the verb. The typical pattern in this group is that the MI is schematically encoded. In the second part of the table, construction types 7-10, the MI is lexically organized and encoded, typically by the verb.

Table 1 seems to confirm the existence of a well-known, though very complex, typological picture, since some pairs of MIC/SIC may, to some degree, be observed

systematically across the traditionally defined categorization of the languages in question. According to the (very sparse amount of) data in this pilot study, Germanic languages tend to express the MI in a schematic construction and the SI by the verb. These languages may in some cases express the MI by a lexical item (verb, satellite) in which case the SI tends to be lexically expressed as well, or unexpressed. Romance languages, and particularly Spanish, tend to construct the MI by a lexical item, mostly the verb, and the SI by an adverbial construction, though a schematic construction of the MI and a lexical construction of the SI may be found as well.

The Italian versions have, surprisingly, been shown to follow almost systematically the "Germanic" type.[16] This may be due to translators' strategy, and individual choices, but it may also reflect the fact that typological categorizations are not so clear-cut as sometimes assumed in the literature. English is typologically ambivalent, as pointed out by Talmy (1991, 2000) and other scholars. Noticeably, all the languages show a considerable typological variation in the construction of macro-events. We have seen various examples that show that in a specific language, the users, when choosing a construction, have more than one option among the identified typological patterns.

8. Conclusion and some perspectives

In this paper I have discussed Talmy's typological distinction in cognitive semantics between verb-framed and satellite-framed languages. The focus has been on the

[16] Similar observations have been made in Masini (2005), which provides a synchronic and diachronic analysis of verb-particle constructions in Italian, and in Bernini et al (2006) (from an L2-acquisition perspective).

theoretical underpinnings of the typology. On the one hand, the typology seems to qualify as a general theory of expressions of macro-events that goes beyond the mere study of motion events. On the other hand, many studies have shown that there are substantial deviations from the basic typological patterns, which were originally suggested in Talmy's work. This study suggests that a generalized version of the typology, originally proposed by Talmy, should include both the lexical level and more schematic constructional levels of analysis. Constructions of different degree of specificity (schematic and lexical constructions) should be the basic constituents of the typology. From this point of view, it is argued that Germanic languages tend to map the main information of expressions of macro-events onto a complex schematic construction and the secondary information onto a lexical (verbal) construction. Romance languages, particularly Spanish, tend to map the main information onto the verb, i.e. a lexical construction, while the secondary information may be mapped onto a complex schematic construction. In this revised version, the typology is thus not merely a matter of lexicalization patterns, as it is in Talmy's work. It is about constructional patterns, the internal structure of constructions, and patterns of combined constructions of varying specificity in different language types.

It is further suggested that the generality of the typological patterns is due to the ontology of the typology: it is only indirectly a typology of conceptualization patterns. It is basically an information structure phenomenon. Macro-event constructions, i.e. constructions of the main information (MIC) and the supportive information (SIC), are the basic constituents of the typology. This framework has proved adequate to identify patterns in data that are very similar to those recognized in Talmy's work, yet not recognized as part of his typology. It is hypothesized that pairs of MIC/SIC are distilled out of usage due to the user's constant generalizations from

usage. They are procedural devices for organizing the clausal information. Their existence in the grammar is reflected in usage as an information structure phenomenon, which has obvious stylistic consequences when translating a text from one language to another.

MIC/SIC cannot be synchronically derived from complex expressions of conceptual content. They have their own, independent, procedural role in grammar, as a device for organizing the information. The hypothesis of this paper is that the typology is anchored in this task. Thereby, the typology is better suited for analyzing actual usage data since information structure is highly sensible to the user's, including translator's, individual choice and strategies in performance. For instance, the framework has proved to be well designed to account for the substantial deviation from basic typological patterns in the Italian data that has been observed in this study, and in other studies. In general, the present study confirms what has been pointed out by several scholars (on the basis of much larger amounts of data), that even though there are important typological differences between e.g. Germanic and Romance languages in expressions of macro-events, there is no simple clear cut distinction.

In this paper, the interpretation of Talmy's descriptive typology is that some MIC/SIC are more entrenched in the grammar of some languages than in others. This is the essence of the typology in the present framework. A survey of the inventory, and frequency, of different types of MIC/SIC is thus an interesting research question for larger scale research projects on clausal typology. Such studies require a large, advanced multilingual parallel corpus.

Finally, we may speculate whether the observed typological patterns reflect a general clausal typology. We may ask whether some languages, e.g. English, tend to organize the principal clausal information by means of complex, schematic

constructions, complementing this information lexically, whereas other languages, e.g. Spanish, tend to organize the principal clausal information lexically around the verb and its valence structure, complementing the principal information by means of more schematic constructions.

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	Schematically encoded MI	Danish	English	German	Spanish	Italian	French
1	[SUBJ,V,OBL / 'MI' [V]-'SI'	X	X	X	(X)	(X)	(X)
2	[SUBJ,V,OBJ,OBL]/ 'MI' [V] / 'SI'	X	X	X	(X)	(X)	(X)
3	[SUBJ,V,OBJ,PRED] / 'MI' [V] / 'SI'	X	X	X			
4	[SUBJ,V,PRED,OBL] / 'MI' [V] / 'SI'	X		X			
5	[SUBJ,V,PRED] / 'MI' [V] / 'SI'	X	X	X	(X)		
6	[..] / 'MI' [V] / 'SI'	X	X	X	X	X	X
	Lex./verbally encoded MI						
7	[V] / 'MI' [ADV-form] / 'SI'				X	X	X
8	[V] / 'MI' [NP] / 'SI'				X	X	X
9	[SAT] / 'MI' [V] / 'SI'	X	X	X	X	X	X
10	[V] / 'MI' [..] / 'SI'	(X)	(X)	(X)	X	X	X

Table 1: Macro-event Constructions in six languages